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ABSTRACT

A description is presented of "Nutrition for Nurses," a prerequisite course for students anticipating entrance into the junior level of a state university registered nursing program. Introductory material highlights the course focus (i.e., the basics of good nutrition; nutrition through the life cycle; nursing process in nutritional care; and dietary interventions for the promotion of health) and presents prerequisites, course units and times. The following sections provide a definition of terms; outline major course goals and objectives; list unit titles; indicate time allotted for each unit; and list instructional materials. Next, the content of the course units is presented. Part I, The Theory of Human Nutrition, includes units on the science of human nutrition, the nutritive process, and nutrition through the life cycle. Part II, The Application of Nutrition to Nursing Practice, includes units on the nursing process in nutritional care, and dietary interventions for alterations in the nutritional process. Each unit includes student goals and objectives, and specifies activities for that unit. Finally, procedures for student evaluation and course revision are presented. (HB)

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NUTRITION FOR NURSES

Nursing 245

San Diego State University

Baccalaureate Nursing Program

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
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JC 830 547

A. COURSE DESCRIPTION

Catalouge Description -

Nutrition for Nurses - N245 is a prerequisite course for students anticipating entrance into the junior level of a State University Registered Nursing program. This course will focus on nutrition and health in the following areas: (1) Basics of good nutrition, (2) Nutrition through the life cycle, (3) Nursing process in nutritional care and (4) Dietary interventions for the promotion of health.

Prerequisites: Sophomore undergraduate standing with successful completion of Anatomy 101, Physiology 105 and Chemistry 135 A and B.

Nursing 245 is a mandatory 3 hour per week lecture course specifically designed for sophomore students attending a senior institution awaiting entrance into the clinical area of nursing education which occurs in the junior year. This course will enable future nurses to acquire knowlege and skills in the area of nutrition and health practice. Class size is limited to 25. Anticipated attrition rate is 5 per cent.

It is anticipated that the student will spend 3 hours per week in lecture-discussion of the material. The course includes 5 units, each including a rationale statement, student goals, student objectives, objective completion critereon, media assignments and test item examples.

These five units will be completed in a 10 week quarter period. Delivery strategy for the course will include lecture, group discussion, instructional media and printed handouts.

DEFINITION OF TERMS

Homeostatic Mechanism - The means by which the body maintains constant physiological conditions.

Nursing Process - A problem-solving method for planning and implementing nursing care. It is a cyclic process that involves the steps of assessment, planning, intervention, and evaluation.

Nutrient Transport - The transport of nutrients and exygen to the cells by the circulatory and respiratory systems.

Nutritive Process - The process by which the nutrients contained in food are made available to the body cells for energy, growth, and maintenance. The steps in the nutritive process are ingestion, digestion, absorption, transport, metabolism, and excretion.

C. COURSE CONTENT

RATIONALE AND MAJOR COURSE GOALS:

Both nursing and nutrition use principles from the basic physical sciences of physiology, chemistry, microbiology and the social sciences of sociology, psychology and economics to form their theories. This course intends to provide nursing students with the scientific background they need for a general understanding of nutrition and knowlege that will help them integrate principles of nutrition into their care of patients.

It is the philosophy of this course that nurses are often expected to serve in the role of consultant to patients and other staff members in relation to nutritional problems related to acute and chronic medical patients. It is deemed necessary for a registered nurse to have this knowlege in order to consult effectively in such areas with patients and other health professionals.

This course is designed for students who wish to obtain knowlege in the following areas related to nutrition:

1. Basic theory of nutrition
2. The nutritive process
3. Nutrition as pertaining to developmental needs
4. Nutrition in the clinical area

Goals:

At the conclusion of this course the student will be able to:

1. Demonstrate an understanding of what characteristics constitute a healthy, nutritional diet.
2. Develop a dietary plan that would be appropriate for a hospital patient who has special dietary needs.

3. Understand different developmental needs of individuals from birth to old age.

Long Range Course Objectives:

1. Within six months of course completion, 50% of the students will identify on a mailed questionnaire that they prepare at least one of three daily meals using the four basic food groups as a model.

2. Within one year of course completion 75% of the students who are also enrolled in their junior year of nursing education will write a dietary program for an acute or chronic medical patient who has special dietary needs.

3. Within three years of course completion, 25% of the students will spend 5 hours per week in consultation with the dietary department in planning meals for patients who have special dietary needs.

LIST OF UNIT TITLES

PART I - The Theory of Human Nutrition

Unit 1 - The Science of Human Nutrition

Unit 2 - The Nutritive Process

Unit 3 - Nutrition Throughout the Life Cycle

PART II - The Application of Nutrition to Nursing Practice

Unit 4 - The Nursing Process in Nutritional Care

Unit 5 - Dietary Interventions for Alterations in the Nutritional Process

TIME ALLOTTED FOR EACH UNIT

WEEK 1. Course Introduction

WEEK 2. Unit 1

WEEK 3. Unit 1

WEEK 4. Quiz Unit 1, Unit II

WEEK 5. Quiz Unit II, Unit III

WEEK 6. Quiz Unit III, Unit IV

WEEK 7. Unit IV

WEEK 8. Quiz Unit IV, Unit V

WEEK 9. Unit V

WEEK 10. Quiz Unit V, Course review and evaluation

Finals Week - Final paper due

MATERIALS OF INSTRUCTION

Required Text:

Green, M. and Harry, J. Nutrition in Contemporary Nursing Practice. New York: John Wiley and Sons; 1981

Bibliography of Library Materials: All are on 2 hour reserve in the library.

Crouch, J. E. and McClintie, J. K. Human Anatomy and Physiology. 2nd Ed. New York: John Wiley and Sons Inc. Pubs., 1976

Foman, S. J. Infant Nutrition. 2nd Ed. Philadelphia: W.B. Saunders Company, 1974

Rodwell, S. Nutrition and Diet Therapy. 3rd Ed. St. Louis: The C.V. Mosby Co., 1977.

Yura, H. and Walsh, M. B. The Nursing Process. 3rd Ed. New York: Appleton-Century-Crofts, 1978

Articles

Friedman, M. I. and Stricker, E. M. The physiological psychology of hunger- a physiological perspective. Psychology Review, 83:409, 1976.

Frowell, H. C. Dietary fiber and diseases of the large bowel. Practitioner 219:350, 1977.

Goldstein, F. Diet and colonic diseases. Journal of the American Dietary Association, 60:499, 1972

Joseph, M. Dietary needs of patients with renal failure. Nursing Journal of India, 64:15, 1973

Konishi, F. Food energy equivalents of various activities. Journal of the American Dietary Association, 46:186, 1965

U. S. Dept. of Agriculture. Food consumption of households in the United States. USDA Household Food Consumption Survey, 1955-1965, Reps 1-4, Washington D.C., 1967.

List of Audio-Visual Materials
(located in the Instructional Media Center)

List of Audio-Visual Materials

"Nutrition: Effect of Food on Energy, Growth and Health" Trainex Corp. (film strip and cassette)

"Neurophysiology of Taste" Abbott Laboratories (film)

"The Anatomy of Aging" Eli Lilly Educational Resources (film)

UNIT I

The Science of Nutrition

Nurses who are expected to function in a role that includes being knowlegeable in nutritional skills must have the basic facts and tools they need to understand current nutritional concerns.

Goal 1 - The student will understand the origens of food habits and will gain insight into their own personal habits and those of their clients.

Objective 1 - In class, under normal testing conditions, the student will identify in writing three of four factors that influence food habits and consumption.

Goal 2 - The student will obtain knowlege regarding the major classes of nutrients and their basic physiological functions.

Objective 1 - In class, under normal testing conditions, the student will identify in writing five of six food sources for six major nutrients.

Objective 2 - In class, under normal testing conditions, the student will identify in writing four of six major major functions of the six major nutrients.

Goal 3 - The student will understand how human energy requirements are estimated and measured.

Objective 1 - In class, under normal testing conditions, the student will identify in writing two of three factors that determine energy requirements.

Test example;

Please identify in ten words or less per item, the three major factors that determine a human's daily energy requirement.

1. (Basic metabolic rate)
2. (Physical activity)
3. (Specific dynamic action of food)

Unit Activities; Lecture, Unit Readings and Audio-Visual Material

1. Nutrition in Contemporary Nursing Practice, Chapters 1-8

2. Nutrition and Diet Therapy, Chaoters 1-2.

3. Konishi, F. "Food energy equivalents of various activities".

4. "Nutrition: Effect of Food on Energy, Growth and Health" (Educational Media Center)

UNIT II

The Nutritive Process

Nutrition is the process by which the living organism receives and uses the nutrients from food for the maintenance of its function and the growth of its tissues. The process of supplying the organism with nutrients begins with the ingestion of food. The nutrients contained in food are made available to the body by the nutritive process, which consists of six separate steps; ingestion, digestion, absorption, transportation, metabolism and excretion. Incorporating principles from physiology and biochemistry this unit examines the function of the nutrients as they relate to the various steps in the nutritive process.

Goal 1 - The student will acknowlege the process by which the ingestion of food and the regulation of food intake occurs.

Objective 1 - The student will in class define in writing using 50 words or less and with 90% accuracy the role of motility and secretions in the digestion and absorption of nutrients.

Goal 2 - The student will become aware of the important factors involved in nutrient transport.

Objective 1 - In class, under normal testing conditions, the student will identify in writing using 50 words or less and with 80% accuracy, the maintenance of homeostatic mechanisms in the transport and storage of nutrients.

Goal 3 - Outside of class and with 80% accuracy, the student will identify in writing using 50 to 500 words the role of the kidney in the excretion of nutritive wastes.

Test example;

Please describe, using 50 to 500 words, the role of the kidney in the excretive process of nutritive wastes in the following areas;

(1) The physiological structure of the kidney and (2) Hormonal mechanisms

that are involved in this process.

Unit Activities; Lectures, Readings and Audio-Visual Material

1. Nutrition in Contemporary Nursing Practice, Chapters 9-13
2. Human Anatomy and Physiology, Chapters 11-13
3. Friedman, M. and Stricker, E. "The physiological psychology of hunger"
4. "Neurophysiology of tastes" (Instructional Media Center)

UNIT III

Nutrition Throughout the Life Cycle

The life cycle provides the framework for the discussion of the different nutritional requirements that are proposed for each specific age group.

Goal 1 - The student will gain a basic understanding of the nutritional needs of each developmental stage in the life cycle.

Objective 1 - The student in class and under normal testing conditions identify with 100% accuracy given a true-false question the amount of protein an infant requires per unit of body weight in comparison to an adult.

Objective 2 - In class and under normal testing conditions, the student will answer 21 out of 25 multiple choice questions accurately regarding the different nutritional requirements that occur at different ages throughout the life cycle.

Test example;

Please circle the number of the item that correctly identifies the amount of iron that must be present in a 6 month old child's diet.

1. 25 mg.
2. 15 mg.
3. 10 mg.
4. Iron is not necessary in the diet of a child this age.

Answer; 2

Unit Activities; Lecture and Unit Readings and Audio-Visual Material

1. Nutrition in Contemporary Nursing Practice, Chapters 15-17
2. Infant Nutrition, Chapters 1-3
3. U.S. Department of Agriculture, "Food consumption of households in the United States."
4. "The Anatomy of Aging" (Instructional Media Center)

UNIT IV

The Nursing Process in Nutritive Care

For this unit, the nursing process is used as an overall framework for delivering nutrition-centered nursing care.

Goal 1 - The student will acquire the skill of using the nursing process as a problem-solving model for delivering nutrition-centered nursing care.

Objective 1- Outside of class, the student will identify in 50 to 500 words and with 80% accuracy(as determined by the instructor's critereon of major points to be covered) one use of the nursing process as a problem-solving model in regards to the nutritional needs of a 45-year old obese woman who was recently admitted to the hospital suffering from chronic low back pain.

Objective 2 - Outside of class the student in 50 to 500 words will describe the assessment procedure used to obtain the nutritional status of the 45-year old obese woman previously described using biochemical, clinical and dietary data.

Objective 3 - Outside of class and with 100% accuracy the student will devise, using 25 words or less per order, three of four nursing orders that will help meet the 47-year old obese woman's nutritional needs.

Test example;

Mrs. L is a 47-year old school teacher admitted to the hospital for treatment of low back pain and to rule out a herniated lumbar disc. Even though her primary medical diagnosis is not nutritionally based, she does have some nutritional concerns. Several weeks before admission Mrs. L. had discussed with her physician the influence of excess weight on her low back pain. At that time they agreed to work toward a slow weight loss to be accomplished by Mrs. L's. adherence to a 1,2000 calorie diet. Mrs. L. was familiar with the diabetic exchange system and chose this method for her diet therapy.

Using the above reference, please describe four nursing order, using 25 words or less per order, that you would devise for this patient's specific nutritional needs.

1.

2.

3.

4.

Unit Activities; Lectures and Unit Readings

1. Nutrition in Contemporary Nursing Practice, Chapters 18-23
2. Nutrition and Diet Therapy, Chapters 20-23
3. The Nursing Process, Chapters 10-15

UNIT V

Dietary Intervention for Alterations in the Nutritive Process

The purpose of this final unit is to demonstrate the use of the nursing diagnosis-classification constructed around the nutritive process. Problems manifested by alterations in the nutritive rpocess are discussed in terms of dietary interventions.

Goal 1 - The student will learn appropriate dietary interventions for a given nursing diagnosis.

Objective 1 - In class and under normal testing conditions, the student will identify 3 of 4 dietary interventions used with a patient diagnosed pre-operatively as having cancer of the colon.

Objective 2 - In class the student will identify in 50 words or less per ach intervention and with 90% accuracy the rationale for three of four of the dietary interventions recommended for the patient described as having cancer of the colon.

Objective 3 - In class the student will identify two of three general objectives to be achieved with a client who has been consuming inadequate quantities of nutrients from foods.

Test example;

Please describe in 25 words or less per item, the three general objectives to be achieved with a client who has been consuming inadequate quantities of nutrients from food.

1. (Treat any existing nutritional deficiencies)
2. (Teach the client the principles and benefits of a nutritionally balanced diet)
3. (Help the client plan and select a nutritionally balanced diet based on personal food preferences)

Unit Activities; Lecture and Readings

1. Nutrition in Contemporary Nursing Practice, Chapters 24-28
2. Nutrition and Diet Therapy, Chapters 27-30
3. Goldstein, F. "Diet and colonic diseases."
4. Frowell, H. D. "Dietary fiber and diseases of the large bowel".
5. Joseph, M. "Dietary needs of the patient with renal failure."

FINAL EXAM

The final exam will be accomplished outside of class. The student will be given a case example and will be asked the following questions that are related to the case example;

Goal - The student will be able to apply the nursing process as a framework in meeting the dietary needs of a patient who is acutely or chronically medically ill.

Objective 1 - The student will outside of class specify in 25 words or less and 100% accuracy the nursing diagnosis of the patient described.

Objective 2 - Outside of class, the student will describe three of four specific objectives of the diet that was prescribed for this patient.

Objective 3 - The student will outside of class name two general principles of the different nutritional components of this patients diet with 100% accuracy.

Objective 4 - The student outside of class will describe in 50 words or less and with 100% accuracy one reason why the physician or nurse would be concerned about a rapid weight gain in this patient or any client with renal failure.

Test example;

The final exam would resemble this model.

Please read the following excerpt and answer the questions below;

Sara B. is a 42-year old secretary in chronic renal failure. She has been transferred to a university medical center for hemodialysis three times a week. Sara's history reveals an almost lifelong battle with hypertension. She had no renal symptoms until three months ago when following an attack of influenza she suddenly developed generalized

edema. A medical diagnosis of chrnoic renal failure was made after a work-up involving a cystoscopy, an intravenous urogram, and various renal function tests. She is being treated with a high-carbohydrate, low protein (60 mg.) low-sodium (1 gm.) potassium restricted (1500 mg.) diet; a 1,000 ml fluid restriction; methyldopa (Aldomet); furosemide (lasix) and aluminum hydroxide (Amphogel)

The admitting nursing assessment notes erosions of Sara's mucosa, generalized bruising and an ammonia odor on her breath. Sara states she is having headaches, dizzy spells, and poor appetite. Vital signs are: pulse, 102; respirations, 28; blood pressure, 210/110 and oral temperature, 99F. She is 5 ft 4 in and has experienced a weight gain of 10 lbs. in the last week. On admission her laboratory values for creatine, potassium, and blood urea nitrogen were elevated.

Questions-

1. In 25 words or less, please describe the specific nursing diagnoses for the patient described.

2. Please describe four specific objectives of the diet prescribed for Sara using 25 words or less per each objective.

1.

2.

3.

4.

3. Please describe two general principles, using 25 words or less per principle, of the nutritional components of Sara's diet.

1.

2.

4. Name one reason in 50 words or less, why the physician or nurse would be concerned about a rapid weight gain by Sara or any client with chronic renal failure.

1.

EVALUATION

Grading Scheme: Provisions for Students Who Fail to Achieve the Desired Level:

Those students who achieve 90% of the objectives will receive an "A" for the course. Students who achieve 80% of the objectives will receive a "B" and those who achieve 70% of the objectives will receive a "C". By the third quiz, if students are not meeting at least 70% of the objectives a meeting with those students will be scheduled and alternatives, such as different study habits or withdrawl from the course, will be discussed. If the students chose to remain in the course test-retake will be offered. If the student consistently fails to meet 70% of the course requirements, withdrawl from the course will be strongly recommended. The final paper will account for 25% of the total grade. This take-home test is expected to be returned with 95% accuracy per student. If this critereon is not achieved, the student will receive an incomplete and will be encouraged to retake this test once again.

Procedure for Revision of the Course-

After each unit quiz, an analysis of the numbers of students meeting the objective per item will be made. Certain objectives will be deleted or restructured if 50% or less of the students fail to meet them. An item analysis will be incorporated for each quiz in which 75% of the students fail to meet the critereon for measurement. Those items that do not differentiate the students ability will be evaluated for revision.

During the fifth week of class and at the end of the course, a rating scale administered for the purpose of evaluation of the course and instructor by the students will be completed. The rating scale will be reviewed and compared to previous evaluations. If the rating scale shows that 50% of the students express dissatisfaction with the course or instructor

revision in teaching style or course format will be discussed with the Dean of the department and revisions will be made as deemed necessary.

Finally, six months, one year and three years after course completion, a questionnaire will be mailed to the students with the questions related to the course's long range goals and objectives. The return of these questionnaires will be evaluated by the instructor to determine whether the goals and objectives are appropriate for the course and whether course revisions must be considered.

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